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In adult education, there are seven essential activities if evaluation is to have maximum use: understanding, specifying, describing, comparing, judging, valuing, and influencing. It is also necessary to understand the objectives being evaluated--their level (agency, program, project or course, and/or instructional) and kind (output objectives or objectives which help secure output); their characteristics (results of decisions, discriminatory, predictive, pluralistic, realistic, etc.). Objectives must also be understood as a system or parts of a system (content, behavior, and experience) and as having a role and function in programing (relationship to program purpose, source of the objectives and degree of commitment, meaning of objectives to those involved, guide or contract, etc.). The main problem in evaluation is getting good objectives written and used effectively in programing because of failure to deal with objectives as decision-making or failure to adjust concepts to overcome erroneous assumptions. The prospects for evaluating the attainment of objectives as a tool in programing depend upon adult educators building a concept of objectives and their use which is adjustable in adult education situations. (A fourteen-page bibliography accompanies the monograph.) (AG)

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EVALUATING THE ATTAINMENT OF OBJECTIVES IN ADULT EDUCATION: PROCESS, PROPERTIES, PROBLEMS, PROSPECTS

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November, 1973

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FOREWORD

Sara Steele is rapidly emerging as one of the most knowledgable people in the area of evaluation in adult education. She is on the forefront of thinking in the current developments in the contemporary approaches to evaluation, as she has ably demonstrated in a publication, Contemporary Approaches to Program Evaluation: Implications for Evaluating Program for Disadvantaged Adults, which she prepared for the ERIC Clearinghouse on Adult Education earlier this year.

In the present monograph, she has teamed up with Robert Brack, who is also well versed in the latest developments in evaluation, to examine the process, properties, problems, and prospects in evaluating the attainment of objectives in adult education.

The authors have noted that evaluation by objectives is a valid and useful, but limited form of evaluation. They have pointed out the advantages and problems of this approach to evaluation, thereby providing some practical guidelines for the adult educator.

The special feature of this monograph is found in the insights which both authors have contributed to this approach by objectives previously considered by many educators as the best, if not the only effective kind of educational evaluation.

The ERIC Clearinghouse on Adult Education presents this monograph as part of its belief in and commitment to improving the field of adult education. We are grateful to Sara Steele and Bob Brack for their contribution to this endeavor, as well as to Ms. Doris Chertow and the Syracuse University Publications in Continuing Education for making this publication more widely available.

Stanley M. Grabowski
Director
ERIC Clearinghouse on Adult Education

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INTRODUCTION

Our society places extensive value on being able to set and attain objectives. Such a process is stressed in education, business, and technology. Skill in judging the extent to which objectives have been attained is valuable in (1) providing feedback to the learner, (2) guiding the teaching-learning transaction, and (3) evaluating instruction. It is an important element in evaluating programs to the extent that it helps identify key results. This skill should aid the programmer in specifying targets and designing programs effective in reaching those targets.

Of the many evaluation strategies available to adult educators, the attainment of objectives model has received the greatest emphasis. The process seems simple and straightforward. Yet recent literature gives as much attention to the problems encountered as to the examples of success.

This monograph is divided into four sections. The first describes the process of evaluating the attainment of objectives. The second summarizes some of the properties of objectives that must be understood if we are to successfully evaluate their attainment. The third reviews problems involved, and the fourth identifies prospects for this approach to evaluation.

THE PROCESS OF EVALUATING THE ATTAINMENT OF OBJECTIVES

The process described in this section differs somewhat from the descriptions found in adult education literature. It utilizes some recent conceptual developments related to evaluation and describes the process in more specific detail. It also puts as much or more emphasis on the use of information as on the procedures for securing that information.

This section includes three main parts: (1) an example, (2) an outline of the process, and (3) comments on selected parts of the process.

An Example of An Evaluation

(Letter symbols are used so that the reader isn't distracted by program content. They can be replaced by content from your field, or with the following:

X = supervision in an adult education agency; Y = administration of the agency; Z = staff and line position in the organization chart; A = morale; B = communication; C = production.)

The statement of objectives for the training session and the description of what constituted attainment read as follows:

As a result of the program, participants are to:

1. Understand the role of X. In order to understand that role, participants must be able to:

   a. Explain how X is related to Y.
   b. Show the relationship between X and Z.
   c. Show the effect of X upon A, B, and C.

2. Increase their positive orientation toward X. Such positive orientation will be demonstrated by responding favorably to five key descriptions of X.

3. Be able to use X in an everyday situation. Use will be determined by the skill with which the participant is able to complete a simple exercise requiring the use of X.

Resources permitted the use of systematic research-type techniques so that the following description of results was available:

> When the participants were compared with a matched control group it was found that significantly more participants than control group members (.01 level) were able to explain the relationship

of X to Y and the effect of X upon A, B, and C. Although some had decidedly developed a more positive attitude toward X, the difference between the participants and the control group was not great enough to rule out chance occurrence. Sixty per cent of the participants were able to demonstrate use of X in a simple exercise. The difference between the participants and the control group reached the .10 level of statistical significance.

Working with this set of objectives and this description of results, the evaluation was as follows:

> This workshop was only fairly successful in attaining its objectives. For the most part, it resulted in the kind of understanding needed. Although it was not able to help many of the participants relate X to Z, this relationship really isn't crucial to the use of X. Its success in bringing about a clear understanding of the relation of X to A, B, and C was much more important.
>
> However, although the workshop was able to build important understandings, it was not able to influence the majority to take a more favorable attitude toward X. And, although it did result in more of the participants being able to use X than would be found generally among those who did not take part in the workshop, 40 per cent still failed to master this objective.
>
> The basic question in this evaluation is whether or not the fact that the 40 per cent are unable to use X is serious. Can and should everyone be using X? In this case, because of X's contribution and its uniform applicability regardless of the situation, failure to aid the 40 per cent is a major problem on the part of the training session. This is particularly serious because the program was designed to meet a problem caused because too few of the participants were using X effectively. The inability of the workshop to develop a positive attitude toward X and the number who still can't use X effectively would mean that the one workshop has not been adequate in dealing with the causal problem and that additional work should be done.
>
> It is recommended that the programmers make every effort to continue contact with the twenty non-adopters and to provide whatever assistance is needed to bring the total adopter group up to 90 per cent of all participants. It is also recommended that the programmers continue contact with all participants through newsletters using examples

of successful use of X, values from using X, and other motivational devices for reinforcing a positive attitude toward X.

Review of time usage within the program showed that relatively little time was given to the second and third objectives. Seventy-five per cent of the time and creative effort was spent on objective number 1. The plan should be revised so that objective number 1 is covered more efficiently and a greater amount of attention given to objectives 2 and 3.

Even though this workshop was not completely successful, it is to be noted that compared with other similar programs, this workshop was somewhat better in producing results consistent with its objectives than were similar workshops held last year in a similar community.

Activities and Tasks in the Evaluation Process

The preceding example includes more than the usual evaluation report. This evaluation starts after most reports stop. But it is the follow-through that gives the evaluation meaning and value.

There are seven essential activities if evaluation is to have maximum use. Those activities are: UNDERSTANDING, SPECIFYING, DESCRIBING, COMPARING, JUDGING, VALUING, AND INFLUENCING. Technically, only comparing, judging, and valuing are evaluation. The other activities are shared with other programming processes, but they are included in the following outline of process to show the complete interrelated system.

Each activity has a group of specific tasks. These tasks relate to each other and build the evaluation system. As a group they define the interactive process of evaluation.

Activities and Tasks which Make up the Process of Evaluating the Attainment of Objectives

UNDERSTANDING:

Establish the purpose of evaluating the attainment of objectives.

Define what good quality evaluation is in relation to that purpose.

Determine who is expected to use the results of the evaluation.

Identify what they need to know about the objectives and their attainment and when they need to know it.

Determine the roles of participants, program personnel, administrators, and other relevant individuals and groups in using the results.

Identify the kind of strategy needed to be able to influence others to use the findings.

Establish the function and role of objectives in the educational activity.

Establish the intent, type, and meaning of the objectives.

Determine the source of the objectives.

Determine the extent to which the emphasis is on group attainment of the same objectives or individual attainment of objectives important to the individual.

Determine whether objectives have changed during the course of the program.

Determine the degree of precision appropriate to the quality and role of the objectives.

SPECIFYING:

Determine the level, quality, and general clarity of the objectives.

Translate the objectives into a list of examinable outcomes which describe when the objectives are met.

Determine whether the objectives are of equal importance. If not, establish the ordering or weighting system that will be used.

Select the outcomes that will be examined in the evaluation.

Specify the standards that must be met by individuals if an objective is attained.

Specify group standards if they are appropriate.

List outcomes other than those identified in the objectives--both positive and negative--which might logically be expected from the educational activity.

DESCRIBING:

Decide on the quality of evidence of results deemed necessary.

Secure the appropriate information using approaches suitable to the purpose of the evaluation.

Describe the outcomes that finally occurred from the program, both positive and negative, those expected in the objectives, and other results that occurred.

Describe other factors which could have contributed to the results in conjunction with the educational activity.

COMPARING:

Periodically compare the results produced with expectations and standards as the educational activity progresses, and monitor progress.

Compare the results at the completion with the objectives and standards.

Compare the results produced with the originating need for the program.

Compare the results produced with results produced by similar programs and by alternative approaches.

JUDGING:

Decide whether the results produced are sufficient to meet the expectations set in the objectives and standards.

Decide whether any additional positive results that occurred are of sufficient value to "trade off" for lower attainment of the expected objectives, or whether they are "bonuses" to the expected results.

Decide whether negative results occurred which are serious enough to over-ride the attainment of the objectives.

Decide whether resources were used efficiently and effectively.

Decide whether the objectives and standards were realistic and appropriate.

Decide whether the educational activity did as well as could realistically be expected under the circumstances within which it was operating.

VALUING:

Determine whether the degree of attainment of the objectives and auxiliary results adequately

completed the purpose of the program and whether the need for the program was met.

Determine the amount of value to the participants, community, and agency that the attainment of the objectives yielded; the amount of harm if objectives were less than attained.

Identify the value of the educational activity in securing the results.

INFLUENCING:

Plan and carry out any necessary follow-up related to the educational activity.

Make recommendations, as appropriate, to the participants, programmers, administrators, others doing similar programs, and/or the public.

Implement strategy that will influence the acceptance and implementation of the recommendations.

Add what was learned from the evaluation to understanding of effective programming and evaluation.

Some of these tasks have been discussed extensively in the literature; others have received little or no attention. Therefore, we have more guides as to how to carry out certain tasks than we do for others. The reference list at the end of the paper is organized by activities so that those interested in a particular aspect can follow up in greater detail.

However, evaluation is much more a "thinking" than a "doing" process. It is basically an intellectual activity. Its accuracy depends upon the objectivity, wisdom, and experience of those involved in the evaluation. Quality data can help make the task easier, but unless someone is able to interpret and use those data accurately they have little value.

Comments on the Seven Essential Activities

There's much that could be said about each of the activities and each of the tasks. Our comments are limited to points we feel are particularly crucial in applying the concept of evaluating the attainment of objectives to programs for adults.

Understanding

Good evaluation requires an understanding both of what's to happen in the evaluation and an understanding of the objectives. Keys to understanding objectives will be presented in the second section. Here we'll concentrate on understanding what's happening in evaluation.

Good evaluation accomplishes something important. It is done for a purpose. The focus of that purpose might be the participants, program personnel, or funders and other influentials. The evaluation must be suited to the prime audience and the purpose in relation to that audience. It is judged in terms of the extent to which it is important, timely, acceptable, and useable by its primary potential users.

If, for example, as is often the case in adult education, the prime purpose of evaluating the attainment of objectives is to help adults learn and feel greater security in the learning situation, the process must be conducted in such a way that the learners aren't threatened and will accept and use the results of the evaluation to improve their own behavior. They must get the results in order to use them. Some evaluation approaches never share the results with the participants.

If the prime purpose is to help programmers learn more about programming and improve educational activities, it must be conducted in such a way that it is meaningful and accepted by them.

If the prime purpose is to build greater appreciation for the program on the part of legislators or other influentials, it should deal with what they most want to know about the attainment of objectives.

One way to better understand what needs to be done and to prepare the way for the evaluation to be utilized is to share major decisions about the evaluation with the prime audience for that evaluation. If the purpose is to help learners progress, involve them in determining what objectives are most important and what constitutes the completion of an objective. If the purpose is to help programmers or influentials, encourage them to define exactly what they want to know about the attainment of those objectives. If the purpose is to secure information for your own use, decide what you want and why you want it.

Unfortunately, in some instances (proof for funding) the process of evaluation has to be remote from the people who are really involved in order to be credible. However, if that is not the reason why you are evaluating, explore ways in which those who must act on the results can share in decisions about standards, evidence, judgments, and value, and in carrying out the various evaluative activities. Shared evaluation is very compatible with the less formal student-teacher relationships essential in adult education. It can be an extremely useful tool to both the participant and the programmer.

Specifying

Philosophy and procedures for carrying out the tasks involved in specifying have shown considerable development in general education during the past ten years. Many of these ideas can be very useful in adult education if the adult

educator is able to discern the extent to which his situation is the same as that in which the ideas were developed. If he finds differences, he must be able to adapt the ideas until they are valuable tools in his own situation.

One difference in some programs is the learner's concern about what he is to learn. Children are often considered passive beings without a right to decide or the wisdom to make the right decision about what should result from learning. Adults, on the other hand, usually have some kind of broad end in mind when they participate in learning activities.

Adult educators need to set and evaluate the attainment of objectives important to adults. Such objectives usually are fairly nebulous and global. They may be broken down into specific tangible outcomes, but each specific usually has little value if disassociated from the whole. For example, knowing how to play the scale is of little value to an adult who wants to play a popular song. He will tolerate the scale as a means to the larger end, but he would not want to stop just with playing the scale. In adult education it is particularly important that the specific outcomes used to guide instruction and for collecting evaluative data be combinable into more global objectives--recognizable to the adult as important. Being skilled in the specific behavioral outcome approach to objectives is not enough. If that approach is used, you have to be able to build more important behaviors from those specifics. If, as in many cases, you start with more global objectives, you must break them into specific evidences of their attainment. In either case, you should be able both to reduce to essentials and to add, in order to achieve combined importance.

Turning each specific outcome and the standard for its attainment into an objective works well when the end that is to be attained can be easily divided into independent parts. However, when a complex or indivisible behavior is involved, it is better simply to list under the objective the variety of things acceptable as evidence of attainment. For example, the following types of activities might be specified as acceptable evidence of attainment of an objective of increasing leadership:

1. Running for an elected office.

2. Serving as an officer of a club or organization in the community.

3. Serving on a committee, study group, or work group concerned with the betterment of the community.

4. Actively attempting to influence others in regard to a particular issue in the community.

5. Showing support and cooperation to elected officials by supporting their stands in discussion, or carrying out tasks requested by the official.

6. Carrying out projects or activities for the betterment of the community.

7. Aiding a group or community through the solving of a problem, counseling of an issue, etc.

Are some of the items on the list better evidence of leadership ability than others? Would you expect a person to demonstrate all of them or at least four of them before you felt he was showing leadership?

A second major part of specifying is determining what constitutes adequate performance. The most usual types of decisions deal with (1) quality of the performance, (2) degree of correctness, (3) number of behaviors if the objective involves a process or set of possible responses, and (4) essential behaviors if some are more essential than others. Several dimensions are involved:

1. When has an individual learner achieved a particular objective? What standard will specify what must be achieved?

2. When has the individual learner achieved adequately on a set of objectives? How many objectives must have been attained?

3. How many learners must have achieved an objective for that aspect of the educational activity to be considered a success?

4. How many objectives must a certain percentage of the learners attain for the activity to be successful?

Individual Learners. In adult education it is essential that standards be realistic in terms of the learner. How often have you heard a participant say, "Teacher says it should be like that, but this is good enough for me"? Standards that are too high may make the whole teaching seem artificial and unreal to the learner and turn him off. Valuable learning time may be wasted in "over-teaching" for higher performance.

Being realistic is a problem regardless of whether the teacher, the student, or the teacher-student together set the standard of performance. One must deal with such questions as, "What quality of performance is it realistic to expect from this adult who comes from this kind of life situation and has this amount of time and energy to invest in this learning activity? What level of performance is absolutely essential? Is there a difference between the essential and the realistic?" If there is a difference, the teaching will have to motivate the learner sufficiently or the program is doomed to less than full success before it begins.

Not only must decisions be made about standards for each objective, but when an educational activity has more than one objective, the degree of attainment of the various objectives that is considered success has to be determined. Let's say there are five objectives. The participants have adequately attained three out of the five. Would you conclude that the program did attain its objectives? Some would say no--each one must be adequately attained. Others would say yes--the majority of the objectives were achieved. Others would stress the fact that the two most important ones had been achieved and then would present plausible reasons for why the lack of success on the other two weren't serious flaws in the program.

Group Attainment. Next, one has to deal with the question of how many participants must have attained the objectives for the educational activities to be considered a success.

The traditional approach to education assumes that a given objective is equally appropriate and important to all learners and that the whole group should be trying to attain that objective. In those instances where this philosophy is appropriate in adult education it is necessary to specify the number within the group that have to attain a particular objective and the number of objectives that have to be attained by that percentage of the group for the educational activity to be considered successful. Is 100 per cent required or is 80 per cent sufficient? Findings from practice adoption studies would indicate that for practices that are extremely difficult or which run contrary to habit and tradition, 20 per cent might be excellent at the beginning or end of the adoption cycle, depending upon the particular practice.

When specifying the number of objectives that must be attained, one often responds in terms of a scale. For example, the program was successful in achieving its objectives (80 per cent or more of the participants attained all five objectives). The program was fairly successful in meeting its objectives (90 per cent attained two objectives, 80 per cent attained two others, and 70 per cent attained the fifth). The program was only moderately successful (50-60 per cent attained each objective). Or the program fell far short of attaining its objectives (from 20-50 per cent attained the five objectives).

The above example assumes that all of the objectives were of equal importance. However, a different scheme would be needed if two of the objectives were seen as being essential and the other three as being peripheral. Then 80 per cent for the two essential objectives and 50 per cent for the other three would be deemed a highly successful program.

In most instances, judgments in terms of the mastery of a total pattern or the program's attainment of its whole package of objectives is more important than the degree of attainment of each as individual, independent parts. Knowledge about each, however, helps better identify trouble spots.

But the approaches common in traditional education may not be appropriate in adult education. Group attainment may be in conflict with a belief in individual differences and autonomy of the learner. If only one person out of twenty participants in a class on small engines needed to learn a certain technique specific to old-style lawn-mowers and he did master that objective, this would mean more in terms of it being a successful program than if nineteen people who never used a lawn-mower were compelled to master that particular thing. If one believes in adult autonomy, success would be defined in terms of the number of individuals helped to achieve their own individual objectives. Problems adult educators face in completing the task components of specifying will be discussed in the third section of this paper.

Describing

Some aspects of describing have had more attention in the literature than any of the other major evaluative activities. There are excellent texts of tests and measurements and other aspects of research methodology which deal with the procedures of securing and analyzing data. Those processes are adjuncts within evaluation, necessary in proportion to the needs and resources of the situation, but do not comprise the main aspects of evaluation. If one feels compelled to list items such as design, instrumentation, and statistical analysis within the evaluation process, they become substeps of the task of securing evidence.

However, there are more fundamental considerations. Before you can decide upon a particular procedure for getting evidence and selecting the best methodology, you have to determine the type of evidence that is required and the degree of accuracy called for in order for the purpose(s) of the evaluation to be met.

What evidence do you need that an objective has been attained? Is it sufficient for the individual to say that he has attained it? Or must he furnish proof--evidence of behavior in a real or test situation--that he has mastered it? Or must there be evidence that he is using it in his life situation? In some instances it is sufficient just to get learners' assessment of how much progress they have made with an objective. In others, you will want visible evidence of mastery.

Can you rely on your own observations or must you in some way isolate and quantify the behavior? The extent of care used in getting either observational data or data by means of tests or other devices must be reconciled with the importance of the data and the costs to the participant and to the program which may arise from substantial data collection. Program costs include both the money costs involved in processing the data and the time and student relations costs if the data collection interferes with the program or is burdensome or offensive to the student. The latter costs are key factors to be reckoned within adult education. Most programs try to accomplish too much in

too short a time. Taking a sizeable percentage of that time for non-teaching--i.e., administering instruments--creates a major loss unless the instruments directly contribute to learning. Secondly, adults will tolerate some data collection if they find it interesting or believe that it is valuable, but even the most cooperative adult has limits to the time and energy he is willing to spend on pencil work. Adult education is constantly challenged to find data collection methods which require minimum input from students and which are acceptable and interesting to the students.

What constitute sound data about the attainment of objectives? The information must be (a) accurate, (b) bias free, (c) replicable, (d) germane to the objective, (e) communicable, (f) well-timed, and (g) credible to those who must use it. How the data are obtained is important only to the extent it influences these five characteristics. The degree of the various qualities needed probably varies with the situation. There is no guarantee that extensively processed data (secured through complicated instrumentation and sophisticated statistical techniques) actually are any more accurate or less biased than expert observation. However, the quantitative data usually appear more "objective," replicated, and credible. They usually are more communicable than are individual observation and judgment. The process of carrying out quantitative data-gathering is more apt to reveal and expose biases. However, there may also be greater opportunity for other distortions and diversions to creep in. The time involved in processing often limits the timeliness of the information. It's ready after the decisions are made. The programmer or evaluator has to decide for a particular evaluative situation what method will give the most useable high quality data. It is seldom possible to get perfect "proof" of attainment of objectives. It is important to get the soundest data possible and to use these with care. Often some kind of compromise must be reached which balances the rigor needed with the resources that can be invested on the part of the agency, programmer, and participant. Cost-benefit analysis of evaluation is as important as is cost-benefit analysis of programs.

Evaluation has been plagued with belief that an experimental design with pre and post-data collection and/or with a control group in which participant and control students are randomly assigned is the only bona fide way of getting data for an evaluation. Anything else was considered second best. Experience is proving that the traditional methods do not often show a statistically significant difference and when they do, differences are challengeable on other grounds. Often such efforts are difficult to organize and prevent change in the program. Such designs limit the use of feedback data while the program is in process. In the end it is difficult to tell whether or not the objectives of the program have been attained. (Traditional methods contribute information about the amount of learning, but judgments still have to be made as to whether that amount was sufficient in terms of the objective.)

Experimental design and most other research techniques were developed in attempts to prove conclusively that a particular phenomenon exists. In how many adult education situations is conclusive proof necessary, appropriate, and possible? When conclusive and unchallengeable data are needed, the experimental design and rigorous instrumentation-analysis techniques should be used if there is reason to believe that they will not distort the proof to the point where it does not deal with the real-life program.

In other instances, it may be more helpful and efficient to start with the aspect of judgment; then try to determine what quality data can be gotten within existing resources and how the limits of those data can be counterbalanced and corrected for. As an example, for some uses testimonial-type evidence may be fully as valuable or more valuable than rigorous test data, but care should be taken that it comes from a large enough and a representative enough sample to give a picture for the whole group.

One of the harms of the past emphasis on research-type activities is that it has downplayed and obscured the importance of the programmer building the type of evaluation competency shown, for example, in judging diving competitions. The research approach replaces human skill with computer printouts. Adult education has not, as a field, been sufficiently counterbalanced with emphasis on building professional judgment. This trend must be reversed. In the long run, it's at least as important for the adult educator to be able to judge the attainment of objectives on the spot as he progresses with the teacher-learner interaction (i.e., through discussion, work assignments in class, etc.) as it is for him to master research and statistical techniques. The information provided by such techniques and the techniques themselves are aids to improving his observation but should never be viewed as a replacement for it. Unfortunately, there is little in the literature about how accuracy can be developed in direct observation by the programmer. It should be one of his key professional tools in the same sense that diagnosis is one of the key professional tools of a doctor.

When adult educators do use research techniques in evaluation, they need to identify the kinds of adaptation that should be made. For example, statistical levels lower than .05 may be appropriate. In real-life situations where one is not trying to gather conclusive proof, a .25 level may be sufficient. And, related to adult autonomy and differences, in many cases it may be more meaningful to examine the number and per cent making gains rather than to focus exclusively upon group averages.

Little attention has been given to the kinds of research-like processes which are best used in evaluation which has program <u>improvement</u> as its purpose. For the most part the rules of the game have been borrowed directly from research and deal with proof. Those rules may be inadequate and inappropriate.

In evaluation, for example, rather than concentrating all resources in a rigorous approach to one collection of evidence, it may be wiser to divide the resources among several approaches so that data about performance on an objective might be secured in two or three ways. Consistent data from several less rigorous sources may be as accurate as rigorously produced data from one source.

Comparing and Judging

Although comparing and judging each has its own distinct tasks and qualities, they are usually done in tandem. Results are compared with the standards in the objectives and a judgment is made in terms of whether or not the objective was attained. Therefore, these two activities will be discussed together.

They are alike also in that they have received less attention in the literature. Primarily, they are alike in that they are carried out within the mind of the evaluator, and the process is difficult to describe or analyze. The accuracy of the judgment is dependent upon the accuracy of the comparison, and both are dependent upon the accuracy with which the evaluator perceives the description of results and the objectives.

Several kinds of comparisons are important in adult education. First, of course, is the comparison of the description of results with the objectives to judge if they were attained. Second, is the comparison of the results with the purpose or original problem or need from which the program arose to judge if by attaining the objectives, or perhaps, in spite of the objectives, the program did what it was supposed to do. Third, is the comparison of the results of this program with results of similar programs and the judging of its comparative effectiveness.

Judging Whether Objectives Have Been Attained. If the description of the actual results matches the standards set there is no problem. But what happens if it does not? For example: assume the program was to be considered successful if 70 per cent of the participants attained the five objectives, and the data show that only 50 per cent did. Was the program really less productive than it should have been, or was there something in the situation that meant that a 70 per cent attainment was too much to expect? Suggesting this kind of reexamination poses some dangers. The temptation to rationalize away failures is high. However, in some adult education contexts sufficient experience to set realistic levels may be lacking, and educators unfairly penalize their program because of this lack. Therefore, when actual performance does not match the ideal expected, the programmer has to explore which of the following factors may have been acting: (1) the data collection procedures were inadequate; (2) the levels were too high--analysis of the context within which the program was held or examination of the participants and their life spaces may show that the

objectives were unrealistic; (3) the program did not do enough related to the objectives. Retrospective analysis of the input to the program may show that, indeed, the input did fall short.

Judging Accomplishment Against the Need. Results should be compared against the original purpose as well as against the objectives. After all, the objectives are merely means to accomplishing that original purpose and are not ends in and of themselves. If they were well set in relation to the problem, need, or purpose, their attainment may automatically resolve the need. If not, a judgment still has to be made as to whether or not the program accomplished its purpose. Evidence in regard to the attainment of objectives may be strongest if the objectives are set aside and not considered in gathering evidence about the results of the program. The program and need, or general purpose from which the objectives developed, would then be the source of focusing evidence collection, and the first basis of comparison. If in a secondary comparison the findings showed great results in the areas specified in the objectives, this would be strong proof not only that the objectives were attained, but that they were on target in terms of the original purpose or need. The programmer was able to use objectives effectively in accomplishing the purpose. Using objectives as the focus for the evaluation may bias the examination toward those objectives at the very onset and provide more challengeable data.

If the comparison with need or auxiliary examination of results shows important outcomes besides those in the objectives, or instead of those in the objectives, judgments have to be made in terms of whether they are equally valuable and whether they should be counted in determining the success of the program.

Examining participant satisfaction may also be important. Although the results data may indicate that the attainment does not meet expectations, the participants may feel perfectly satisfied. On the other hand, results data may suggest that the objectives have been attained--technically, the program is a success--but if the participants aren't satisfied the technical success is not a real success.

Judging the Attainment Against that of Other Programs. Two important gains are made when it is possible to compare the attainment of a program with the attainment of other programs.

First, such comparisons are extremely helpful in determining what it is realistic to expect from programs with a given type of input and a particular type of clientele. It took examination of several classes, for example, to decide whether it was realistic to expect improvement equivalent to a grade level for 200 hours of class time in adult basic education. Comparing a program with the best that has been attained in the past and by the average attainment of programs in this field gives a sounder means of judging its success than merely comparing it with paper standards.

Second, comparison helps determine whether other methods would have been as or more productive at lower cost. Assume that computer programming of instruction attains its objectives. If it proves more costly than programmed instructions and shows no other marked advantages, however, the comparison of the results of the two is as essential to decisions about using computer instruction as is determining whether the computer can, in fact, produce the desired learning.

However, comparison can be dangerous unless programming situations are identified. Care must be taken to see the extent to which the participants held similar characteristics, the extent to which time and other resource utilization was the same, and whether there were any general factors in the context which would create different situations.

Comparison is particularly important in adult education where individuality of programs and program settings often lead adult educators to continually reinvent the wheel (develop a program from scratch) without comparing that product with those of other inventors and adding the innovations of others that seem to pay off.

Judging the Role of the Educational Activity. Educational activities can play many roles. Sometimes they provide new learning for adults. At other times little new learning occurs, but the learner is sufficiently motivated or reinforced so that he makes more use of what he already knew. This is often the case, for example, in nutrition education. Success lies not as much in gaining new understanding of the body's food needs, but in getting people to act upon that knowledge and eat the things they need but tend to avoid.

The more basic question that adult educators sometimes have to deal with in terms of role is how much of what happened can be claimed by the particular program. There is a desire to prove to be the sole source. Yet, is this realistic in this day and age? Is it even wise in terms of what we know about how people are influenced to use knowledge? In many instances learners have access to information on a particular topic from several sources. It often is the reinforcing effect of the multiple exposure that results in the use of the practice or the change in the attitude, rather than the influence of one source alone.

Improving Comparison and Judgment. Comparisons can yield different conclusions. Two people making the same comparison can arrive at quite different judgments. Conclusions and judgments are debatable and should be questioned as a means of checking their soundness. A clear conclusion seldom comes directly and easily from the data. The programmer and/or evaluator must reach a conclusion based on logic as well as use of the evidence. Both means must be able to support his conclusion. They must be able to either refute or accept any challenges that may arise. However, such challenges are unlikely unless there is some kind of conflict element in the

situation. In such cases high quality evaluation is not enough. Success will primarily rest with the skill used utilizing the evaluation findings in arguing the case.

It may be helpful to see how others interpret the data and what judgments they form. Seeing what the person who is somewhat negative to the program concludes as compared with someone who is sold on it, or as compared with two or three people who are uninvolved and neutral, will add perspective to the final judgment. Discussing the findings with the actual participants also can be helpful in verifying the data and forming conclusions.

Valuing

Valuing is the process of interfacing judgments with relevant values and beliefs. It is the assignment of worth to that which was done. Valuing comes into play as the teacher examines the attainment of objectives and determines whether more teaching and learning experiences are needed.

What does it mean to the participants if only 45 per cent mastered a particular objective? If the objective was important to them, then some follow-up may be needed to give further assistance to those who fell short. If, in a Basic Adult Education class, 45 per cent of the students did not master simple arithmetic needed in everyday living, it might be serious. On the other hand, if 45 per cent of those participating in a Great Books program failed to understand one of the authors, would this be serious enough to attempt to get them to expand their understanding? Take the instance of the 45 per cent not mastering the simple arithmetic techniques. If further analysis showed that the measurement techniques were fair and that 45 per cent had the capability to learn, then the programmer might want to seriously consider alternative approaches to teaching arithmetic or find ways of expanding the time allowed for slower learners and of giving them more individual attention. The teacher of the Great Books program might recognize that either insufficient time was given to the "troublesome" author, or that he had not been able to focus the discussion sufficiently to help students grasp the main ideas. He would have to decide whether it was important to make changes the next time he taught the course.

More importantly, valuing comes into play in assessing the worth of what has been accomplished through attaining the objectives.

If the program is successful in helping participants achieve the objectives, how valuable is the result of that attainment? Is it really worth the cost in terms of time, energy, and money? Is the value sufficiently great that this program should be offered to other people? That programming efforts in this area be expanded? These kinds of questions are more crucial than the preliminary question of whether or not the

objectives were met. A program can attain its objectives beautifully and still have little value. On the other hand, a program can fall short of its objectives and still be very valuable.

It is important to put the whole thing together in terms of individuals and program. Putting it together in terms of individuals means taking time to look at some of the class participants as total persons and of seeing what these objectives, this performance, and these learning experiences have meant. Putting the program together as a whole means taking the findings from evaluating the attainment of the objectives and relating it to the program--going back over the program and examining the strength and quality of those inputs which were expected to be effective in helping to attain a particular objective. To what extent were the teaching and the learning experiences actually consistent with the objectives? What techniques appeared to be particularly effective with which types of students? What hindered other students in terms of a particular objective? Were time and energy effectively used in attaining the objectives? Were these the right objectives?

Taking evaluation in its literal interpretation, it is the search for value or the means by which the worth of things is determined. If one really evaluates the attainment of objectives, then one is primarily concerned with determining the worth that completing those objectives has had to the participants and to the greater society.

Valuing culminates in recommendations for action. It is at this point in the evaluation process that exposure of beliefs and values exerts its effect upon the program. Understanding is needed of the beliefs and values which influence how various individuals and groups assess the objectives and their attainment. If values and valuing have been sufficiently dealt with, the influencing process which follows can be made more effective.

Influencing

Evaluating the attainment of an objective, as should be evident by now, is usually not an easy task. It can be done at varying degrees of precision. The evaluator must decide when such information is of sufficient merit to outweigh the costs involved--to deal with such questions as: "What will I know if I do determine accurately whether the objective has been attained? How will I use that information? How useful will the information be? Is it worth more than other things I could do with that time and energy?"

It is pointless to expend all the effort just to prove a point. The conclusions should be carefully screened and used as a diagnostic device: (1) to design or recommend additional experiences for the participants if needed; (2) for improving the particular program examined; (3) for improving programming efforts which expect a similar kind of result from a similar type of clientele. In addition to what is learned from the

findings of such an evaluation, there is usually considerable value in what is learned from the sometimes agonizing process of specifying the outcomes and setting appropriate levels of behavior.

In ongoing everyday evaluation the person doing the evaluation and the prime user of that evaluation are one and the same--the programmer and/or the learner. Then the question becomes one of whether that individual can be honest with himself and accurate in his judgments, and whether he will be willing to act upon those judgments rather than to modestly deny that success exists or to rationalize away lack of success.

Special efforts are required when others need to be influenced through using the results of the evaluation. Informal as well as formal communication of findings and conclusions is important. But interaction and involvement are even more essential in helping those who need to act upon recommendations to utilize the findings of the evaluation in carrying out those recommendations. Not only must strategy be thought through carefully, but the tired programmer pressured by new things in the offing has to make time to complete his task in relation to the program he is evaluating.

PROPERTIES OF OBJECTIVES

Objectives are a complex phenomenon. In order to use them well and to evaluate their attainment, one needs a clear understanding of what they are and the role that they play in programming.

Twenty years ago understanding objectives consisted primarily of a recognition that they were important and that they should have three parts--who, what, and how. There has been considerable work on the concept of objectives over the past few years and, as a result, our insight into the nature and role of objectives is increasing.

This section will summarize some of the comprehension that has been built up over the years and that the programmer must have before he can evaluate the attainment of objectives.

The section is organized around four major kinds of understandings necessary to effective evaluation:

1. Understanding level and kind of objectives.

2. Understanding characteristics of objectives.

3. Understanding objectives as systems and parts of systems.

4. Understanding the role and function of objectives in programming.

Understanding the Level and Kind of Objectives Where Evaluation Will Be Done

Evaluation of objectives is a generic activity. It should be undertaken for each of the kinds and levels of objectives utilized by the adult educator or adult education agency. Understanding the differences in levels and kinds is important in developing evaluative strategy.

Understanding Levels of Objectives

Most adult education programs involve several levels of objectives. In even the simplest of situations, there are usually four such levels:

1. Agency level of objectives describing the overall mission of the unit. This level is sometimes called "institutional goals," or comes from enabling legislation.

2. Program objectives which indicate the key focus of the total activities for a period of time (usually one to five years).

3. Project or course objectives which indicate the outcomes expected from one fairly [illegible]able segment of the program.

4. Instructional objec[illegible]ich guide the specific teaching-learning interaction[illegible]g, class period, activity within a period). Instructiona[illegible]jectives are designed to communicate instructional decisions; not curriculum, institutional, or societal decisions. Curriculum or program objectives deal with the broad goals of the educational activity. Instructional objectives deal with the specifics that are to be mastered as a part of reaching those goals.

Instructional evaluation focuses primarily at the instructional objectives level (specific changes in knowledge, skill, and attitude). Program evaluation focuses on the project, program, and/or agency objectives to see whether the specific changes in knowledge, skill, and attitude are combining in such ways that desired results are occurring in real-life practice.

Recently attention has turned to looking at the relationships among the various levels. One level is valid only if the assumptions made at another level are accurate. All four sets have to be sighted on the same target before there is any chance that attaining the objectives at a lower level actually will contribute to attainment of the more upper-level objectives. For example, it is possible for a programmer to attain all of his teaching objectives without making any contribution to the attainment of the objectives of the program just as it is possible to win a battle but lose the war. In the ideal situation, a program objective is the overall package which includes several instructional objectives. It should be clear how the individual instructional objectives relate to each other and in combination, achieve the larger course, project, or program objective.

There may be a variety of sub-levels in between the four main "floors" in the pyramid of objectives. In many instances in adult education the structuring of relationships among objectives isn't clear and equal-distanced, but is more like the split-level approach to a building with objectives of various levels of complexity strung together in an upward or downward fashion. An instructional objective in some programs is as complex as a project objective in others. Or in other instances, a project objective may be as simple and concise as an instructional objective.

An understanding of the number of levels of objectives in a particular situation is important for at least two reasons. First, it is necessary to determine which level has most merit in evaluation in relation to the purpose of that evaluation. Second, the various levels should have a clear relationship to

each other. In order to really evaluate progress at one level the relationship to another level must be understood.

We can compare the program of an adult education agency to a semi-truck. That truck has certain major parts--the van, the cab, the engine, the wheels, and underpinnings. Each must be functioning for the truck to carry out its mission. Most agencies have several major programs. Each needs to work if the mission of the agency is to be met. Within a particular part of the semi (section of the agency's programs), there are sub-units which must function for that part of the semi to operate. For example, within the engine there are several parts--generator, carburetor, etc.--all required to be in order for the engine to work properly. Within each section of the program there are courses or projects which need to perform well for the section to be making maximum contribution to the mission. Then within the engine sub-systems there are a variety of gears, wires, etc. that must be operational in order for the sub-systems such as the generator or carburetor to function. Instructional objectives can be compared to these gears and wires.

The gear or wire taken out of its place in the generator or motor is useless. So an instructional objective which is not well-placed in the system that makes up the course or project objectives is of little value. Conversely, if crucial wires are missing or shorting, the generator can't start, the motor won't run, and the truck won't move.

A mechanic checking over a semi on routine periodic inspections, checks major units as well as wires and gears. So, as we think about evaluating programs, periodic evaluation is needed on all levels of objectives. Each type of evaluation may serve a somewhat different purpose. For example, evaluation at the teaching-learning level is extremely important to see that progress is being made on specifics. This kind of evaluation gives feedback in improving particular instructional activities. But it probably does not serve well when trying to show a legislator that the mission of the agency is being achieved. The legislator is interested in composite results in terms of the objectives at the project, program, and agency level, and how much is occurring in terms of the mission for which the agency is funded.

Traditional evaluation advice has been to reduce broad objectives, project, or program levels to their smallest component parts and concentrate the evaluation at that point. We come to recognize, however, that program evaluation and instructional evaluation are not exactly the same thing. It becomes clearer that in program evaluation, although we reduce to specifics, we must be able to recombine those specifics to show the broader results described in the broader objectives. A watchmaker can test each part of the watch separately but still have no guarantee that the watch will run. It is the combination of the parts and their interaction that provide the accuracy upon which the watch is judged.

A watchmaker can evaluate the functioning of a watch without taking it completely apart. He knows what things to look at. So in many cases it is possible to measure the broader level of objectives without measuring each of the instructional objectives. If the purpose of a city-wide driver safety program is to reduce the number of improper turns being made into one-way streets, one can test the attainment of this objective by observing turns at a sample of corners. It is therefore neither necessary nor appropriate to examine test scores on students' knowledge of proper turns or to measure attitudes on the importance of turning. The test of the objective rests in visible action. However, if there are still many errors in the counts at those crucial corners, then study of results on specific instructional objectives may help identify where the driver education program needs to be changed.

If you are concerned with project or program evaluation, check the instructional objectives against the project or program objectives to see if the necessary support framework is included in the instructional objective. Were the program and project objectives actually implemented in the specific learning activities which were carried out? Sometimes the objectives detail only one part of what is included in the project or program objectives, like a tapestry which is only partially embroidered. In good programming the completed parts (instructional objectives) cover all parts that are essential for the visualization of the total picture (attainment of the project objective). Close examination sometimes shows, however, that the instructional objectives have deviated from the intent of the course, project, or program, and either fill in only the hazy and least relevant parts of the design or are part of another design entirely.

Understanding Kinds of Objectives

In an attempt to improve the attention given to results objectives, some sources have attempted to get programmers to ignore other types of objectives which function in adult education programs. In reality, the idea of an objective is generic, and there may be many types of objectives in programming, similar to the many types of wires in the semi-truck. Just as one wire doesn't replace another in the truck functioning, so one kind of objective doesn't replace another in a program. Evaluation may be as important to one as to the other.

Two broad categories of these types of objectives are output objectives and objectives which help secure output.

Output Objectives. The two sub-types within output objectives are: (a) Learner-centered objectives which indicate what change is to take place in individuals as a result of participating (changes in knowledge, skill, attitude, or practice); and (b) Society-centered objectives which specify what effect the individuals who participate will have on the group.

Examples of objectives in the latter type might be: the community is to develop a recreation advisory group consisting of representatives of youth and adults; or, the amount of litter along the roadside will be reduced by 70 per cent.

Both types will be discussed in more detail in the next few pages.

Objectives Dealing with Securing Output. This group is less talked about. It encompasses a variety of kinds of objectives. The most familiar are administrative or program-maintenance objectives and teaching objectives.

Administrative or program-maintenance objectives are institutional in nature, are concerned with program maintenance, or are instrumental objectives focusing on the mechanism which provides the program. This category includes objectives dealing with improved procedures, increased enrollments, improved contextual features, and personnel. Examples of such objectives are: to increase the number of low income participants; or to secure support for the workshop as a continuing activity; or to increase the number coming back for another program.

The greater the "volunteer" nature of the audience, the more the program has to be concerned with setting and evaluating administrative objectives. Unless, of course, the agency does not care about its permanence and its growth and development. Some objectives in this category do deal with results--results in terms of the agency's well-being. It is important that attainment of such objectives be carefully evaluated. It is possible to achieve program results in terms of the participants but not have built adequate support among influentials for the agency to survive. These objectives should not be substituted for external results objectives, but often equal attention should be given to them both in programming and in evaluation.

Teaching objectives state what the teacher is going to do. These objectives are usually the other side of the coin from the learner's objectives. Examples of such objectives include: to demonstrate the difference between an attitude and an opinion; or to stimulate students to explore on their own. Teaching objectives are useful to adult educators. Evaluating to see whether or not they were carried out is also beneficial. However, results in terms of teaching objectives should not be equated with or substituted for examining the attainment of output objectives. For example, just because a teacher tried to stimulate students to explore on their own, does not necessarily mean that he was successful and that the student actually carried out more independent investigations.

Programs probably will function most effectively if programmers are able to use and to evaluate the attainment of various types of objectives. The important point, however, as mentioned above, is to avoid substituting instrumental objectives for output objectives. The achievement of instrumental or program-maintenance objectives should contribute to the

achievement of output objectives, but there is no real guarantee that they do so. Because it is often easier to examine results in terms of input or support objectives, and programmers often are forced to take the easiest way, for some years literature on evaluation has ignored anything other than output objectives. This may be both unfair and a hindrance to program development and improvement. Both types of objectives must be recognized as legitimate and complementary. Both should be evaluated periodically.

Understanding Characteristics of Objectives

Most phenomena have distinctive characteristics. Some fairly common characteristics of objectives are beginning to emerge. Understanding them helps one to be better able to deal with objectives and their evaluation. Some characteristics and dimensions of characteristics are discussed in the following sections:

Decisions

Objectives are the results of decisions. They communicate what one has decided to do. If written by the learner, they say what the learner has determined. If written by the programmer, they present the judgments of the programmer.

If the learner and/or programmer can not make a decision, it is impossible to state an objective. Often either or both are able to make general observations but not to be specific. As a result, only general objectives are set without precise specifications and limitations.

Program decisions require wisdom, experience, and sufficient knowledge to feel that one can set a decision that can be lived with.

Discriminatory

Part of decision-making is to choose among alternatives or to discriminate one thing from another. Objectives discriminate in the sense of setting certain things apart from others as being of most importance and thus receiving greatest attention and emphasis in the program. One has to be able to make choices, accurately compare values, understand the process of discriminating among those choices, and accept the consequences of that discrimination in order to set and use objectives.

Prediction

Attainment requires that the person setting the objective have the ability to predict what will happen or what can be caused to happen.

Commitments

Objectives are a commitment on the part of those who set them or accept them. Those involved must be willing and able to carry through on those commitments in order for the objectives to be meaningful.

Realistic

Objectives are most useful when they are realistic. It has been said that the ultimate test of an objective is not its validity but its achievability. The identification of what is realistic is, of necessity, specific to each individual learner and specific programming situation. What is realistic in one situation may be impractical in another.

Pluralistic

The fact that objectives are not single entities but are usually pluralistic and hierarchical, and fit in a variety of patterns, is frustrating for the mind that likes to deal with sharp and clear-cut entities. Accepting the amoeba-like relationship of one objective to another, and disentangling the web to establish a viable pattern, is not an easy task. This becomes even more challenging as one deals with learners from a variety of backgrounds, as is often the case with adult learners. Very seldom are adult educators dealing with simplistic changes in behavior unrelated to a variety of other behavioral patterns. This characteristic will be discussed in much greater detail in the next few pages.

Challengeable

Because objectives are the result of decisions and based upon the values held by the person setting them, they are open to challenge and debate. In order to avoid such debate, objectives are sometimes deliberately kept vague enough to be able to mean different things to different people. If program goals are vague and intangible, it is possible to accommodate diverse and inconsistent sub-goals within them. They facilitate flexibility while permitting goal succession and adaptation of working goals as the situation changes. They usually provide effective compromises without the work of forcing divergent factors to agree, and at times are the only way that a group can be moved into any kind of action. However, in addition to the difficulties of measuring and judging their attainment, vague objectives may lead to frustration both within and without. They may produce role conflict and result in deviation to unessential programs. Some programmers and in some situations, most astute programmers, will deliberately choose intangible goals rather than specific ones because of the political advantages involved in those goals. As a result, some of the least measurable objectives are written not by uninformed adult educators but by those who are too knowledgeable and take the route

of the ambiguously stated objective deliberately. The route is often followed by the person who recognizes the political overtones that occur in many education situations.

Changeable

Another characteristic plaguing evaluation which requires understanding is change. The completion of one set of objectives and the need to move on to another may result in a program ending with goals different from the originals. In this case the changes should be made and accepted. Another type of change is that occurring when the original goals are displaced by others. Such displacement may be appropriate if the situation changes or if the programmer becomes better informed about the situation and can be more accurate in setting goals. However, if the replacement results in sidetracking or investing extensive resources in non-productive objectives, the change is inappropriate. Sometimes, for example, programmers might be blocked from achieving their original goals and seek out the easy things they can do. Or goals of program and position maintenance become more important than goals of producing results. Knowing that objectives may be only semi-stable should be useful in dealing with them in programming. The programmer then has to determine when complete stability is appropriate and when some change is permitted. If change is appropriate, the evaluation design must recognize and take the change into consideration.

Continuous

Discussions of objectives usually cast them (intentionally or not) into a concept which has a starting point and a terminal point. However, in adult education some programming is continuous in nature with few terminations. Evaluation of such goals is not based upon completion but upon progress made between two points in time. Sometimes continuous objectives appear vague because they involve such large intents that they cannot be chopped up into specific time sequences.

The more remote the goal the more difficult it is to deal with objectives as specific and concrete, and the more difficulty in measuring its attainment. Yet sometimes we may err in concentrating too much of our evaluation efforts on examining what happens in terms of the short-range, concrete objectives, and too little in terms of the extent to which more remote objectives are being achieved.

Some programs require remote or continuous objectives. Evaluation then becomes a process of monitoring progress toward such objectives rather than establishing proof of their attainment. The extent to which a program is dynamic has to be identified and dealt with.

Enabler

Objectives are communication links in a program. They communicate decisions and link program activities to the problem or other initiating reason for the program. Their attainment should result in the solution of the problem or the resolution of the purpose for the program. Their attainment is important only if the originating purpose is completed thereby. In this sense they are enablers.

This is not an exhaustive list of the key characteristics of objectives in adult education. It does, however, provide examples of some of the kinds of major ideas that need to be listed and developed in order to help adult educators better use objectives.

Understanding of Objectives as Systems and Parts of Systems

Just as the botanist is better able to deal with a new plant when he knows the ways in which plants are generally categorized and their characteristics, so the educator is better able to deal with an objective when he understands how it relates to other objectives.

Approaching objectives through a concept of system can be helpful in that such a concept helps relate a specific objective to a spectrum of information. By placing the objective within that spectrum much more is known more rapidly than if it was seen as an unrelated object.

An Objective as a System

An objective is a system within itself. It has three interrelated parts: (1) the content or the "what" of the objective; (2) the type of behavior or action expected in relation to that content or the "what's he supposed to do with it" component; and the (3) "who" and "how many" component that indicates who's supposed to attain the objective. The three parts interact together and depict the "whole" of the learning that's expected to occur.

In order to function efficiently all three parts must not only be present but must be consistent and in harmony with each other. They must be able to work together. For example, an objective won't work if the behavior expected in relation to the content is incongruous with that content. An objective of people learning to sing a painting would be difficult to achieve; so would an objective to have learners make leadership. In addition to being in harmony with each other, both the content and the behavior have to be in harmony with the characteristics of the learners. To expect beginners in a physical fitness class who have had no prior conditioning to run three miles the first day would be quite out of order. Within itself the three components of the objective must mesh and work smoothly together.

Each part of the objective is hooked into other systems. For example, the content of a given objective hooks into systems for analyzing and categorizing types of content. Behavior expected in the objective hooks into systems of behavior. The "who" and "how many" components hook into the socio-psychological, economic, and institutional systems that are individuals and groups. Being able to interpret a given objective in terms of how it fits into each of these various systems helps determine both how to attain it and how to evaluate such attainment.

Content Systems

The content or "what" aspect of the objective varies according to the type of results. Included are such things as: (a) specific subject matter in the case of objectives dealing with mastery of knowledge; (b) the nature of belief, idea, "object," etc., in objectives dealing with attitudes and values; (c) nature of the skill or attribute that is to be developed in objectives dealing with skill mastery or character development; and (d) description of the aspect in the environment to be changed if the objective deals with the change in conditions. The "what" aspect is generally the object of the verb in the sentence. It clearly defines what is going to be dealt with.

Each type of content has its own system for typing the generic nature of that content. Ascertaining the type within the content area helps determine how best to facilitate learning and development, how to measure amount of learning and development, and how to evaluate whether the progress is sufficient.

Among the various types, greatest attention has been given to categorizing kinds of learning and development involved in cognitive learning. As you examine an objective in terms of the content being emphasized, determine whether the focus is on a fact. A relationship among facts? A concept? A principle? A process? Does it deal with specifics? If so, is the knowledge involved one of terminology? Knowing specific facts? Or is the knowledge knowing what to do with specifics--how to organize, study, judge, or criticize them? Are there conventions involved? Trends and sequences? Classifications and categories? Criteria? Methods of inquiry related to the specifics? If it focuses on universals and abstractions, does it focus on principles and generalizations? On knowledge of theories and structures? Are there chains of specifics involved? Or if the focus is on concepts, is changing the concepts into a strategy required? In the series of questions above, did you recognize the categories of a taxonomy published some years back? Taxonomies provide systems frameworks for seeing how different types of content relate to each other.

The other areas are less extensively developed. In the affective area a similar set of questions would include: Does it focus on a belief? An opinion? A value? Is it a single entity or is it a part of a larger belief or value system?

If it is a skill is it fairly simple involving only a few muscles? Or is it complex? Does it involve only one part of the body or must several parts be co-ordinated?

A parallel set of questions for environmental changes includes: Is the development desired to be in an individual or of a group? Is the kind of change desired in the environment a social change? an economic change? a physical change? a psychological or emotional change? a legislative change? an institutional change?

The more precisely you can define the nature of the content that is the heart of the objective, the more clearly you can determine how to deal with that content. Procedures and processes vary according to what is being emphasized.

Behavior Systems

Just as a type of content is part of a system which shows what it is compared to other types of content, so the behaviors expected of the learner can be developed into systems which help to define what a particular kind of behavior is and how it relates to other types of behaviors.

You need to know what the learner is expected to do with the cognitive content that is being dealt with. Is it to be repeated as learned? To be used in thoughts (associately)? In solving problems (applicatively) or in providing meaning to subsequent activities (interpretively)? How far do you expect the learner to go in developing an ability to use the data? Is he simply to recall it? Is he to go farther and show that he comprehends it? Can he apply it? Use it in synthesis? In analysis? In evaluation?

If it is an affective content, a belief, value, or attitude, is he to be open to receive, be aware of what it may be, willing to receive, willing to concentrate on it? Should he respond? Assign value to it? Accept it? Commit himself to it? Should he integrate it into his value system?

If it is a skill, is the learner to know what to do, acquire a set for what to do, be able to respond under guidance, give correct response mechanically, or build the skill into a habitual response?

Does the behavior involved require recall (knowing what to do and when it's completed)? Does it require manipulation (knowing how to do it)? Does it require problem-solving (knowing how to match need and solution)? Is the behavior expected merely the knowing about doing something or does it require actual doing? If so, is the actual doing merely to prove the person can do it, or is he expected to integrate it into his regular life behavior?

Stages in practice adoption also are means of categorizing expected behavior of individuals and of groups. Is the individual or group only expected to be aware of a need for a change?

to test out ways of making the change and the effects of that change? To work to make the change a permanent one?

Depending upon the philosophy of education that the adult educator is using, he either (1) has to be able to clearly define the specific behavior that he as the teacher and/or programmer expects to result, or (2) he has to understand the level and type of behavior related to the content that the participant wants to achieve. In both cases he has to try to adjust those expectations to the realities of the situation. But by understanding he can bring resources to bear in a much more direct and efficient manner than if he only has a vague idea of what needs to be done.

Content and Behavior Combined

Tables of specifications or outcome grids can be helpful in examining the meaning of an objective. Key elements of a content system are listed on one dimension of the table and the range of behaviors in the behavior system are listed down the other. Cells are then formed coupling behaviors with content to indicate the particular outcome selected for emphasis. Tables of specification are helpful in identifying the amount of emphasis and adjusting the emphasis of the evaluation accordingly.

Experience Systems

Most of the various contents and behaviors relate to each other in a type of sequential relationship. A person needs to know certain things before he can make sense out of other things. He has to have developed certain abilities before he can go further with those abilities. One of the special challenges to the adult educator is that of identifying how the new objectives relate to past attainment. Does the adult have sufficient background to cope with the objectives set for the particular situation? Or has he already mastered many of those objectives, and does he need new or more demanding ones? This task is particularly challenging when the adult educator or team within an agency does not have the same sequence of contact with the participant that is built up in an elementary or high school or within an apprentice or other program where the individual is in sustained contact for several months or years, and where information is readily available as to the kinds of previous experiences and attainment from those experiences.

Relationships Among Objectives

So far we have touched upon the individual objective as being a self-contained system and as hooking into other systems--content, behavior, and past experience. Another aspect of system important in understanding objectives is that of applying the concept to a set of objectives. Most projects and individual learning activities involve sets of objectives. Usually there is a relationship among the objectives within the set.

They are not separate and independent. Or if they are treated as such, perhaps they shouldn't be.

Although cognitive, affective, and skill objectives are usually stated as separate objectives, attainment of one may be dependent upon the attainment of another. For example, adults don't usually bother to exert the effort necessary to master content or perfect skills unless they believe in what they are mastering. Conversely, it is hard to develop a positive attitude about something that you don't know anything about. Affective, cognitive, and skill objectives have to complement each other and support each other toward attainment.

Some of the more typical patterns of relationships are: (1) simultaneous - progress toward two or more must occur at the same time; (2) sequential relationships (chains) - attainment of a latter objective depending upon attainment of an earlier one; (3)hierarchical (pyramids) - one macro-level objective requires a host of micro-level objectives covering the total area involved in a macro-type objective; (4) essential (keystone) - one objective base upon which attainment of several other objectives rests.

In evaluation we are usually attempting to assess the attainment of a <u>set</u> of objectives. It is important, then, to determine the kind of system involved in the set. If, for example, it is a keystone type, and if there are two or three basic outputs which if there guarantee that the whole set of objectives has been attained, rather than collecting data on all the set and its parts, the focus would be on the two or three essential outputs. Or, on the other hand, if there was clearly a sequential relationship among the objectives with one dependent upon the other, one might only examine the attainment of the final step of the sequence. Or if there was reason to doubt that the full sequence had been attained, one would attempt to develop a profile of how many successfully mastered each step in the sequence and where the major drop-off points occurred.

Understanding of objectives as systems and parts of systems helps one design the evaluation system most appropriate in a given situation.

Understanding the Role and Function of Objectives in Programming

In order to successfully evaluate the attainment of objectives the evaluator needs to know both how objectives were expected to operate in the program and how they actually did operate. Some of the aspects that need to be understood as they operate within the given situation are:

1. Relationship to Program Purpose

2. Source of the Objectives and Degree of Commitment

3. Meaning of the Objectives to Those Involved

4. Guide or Contract

5. Extent of Change Planned or Permitted

6. Real or Rhetoric

7. Program Focus or File Copy

Relationship to Program Purpose

Are the objectives considered ends in themselves or are they seen as enablers to achieve the purpose of the program? If so, how well do the objectives cover that purpose? If the objectives are met will the purpose be attained? If yes, the evaluation may well limit itself to examining the attainment of the objectives. If not, the evaluation may want to examine what happened in terms of the originating problem or need as well as examining what happened in terms of the objectives.

Source of the Objectives and Degree of Commitment

What was the actual commitment to the objectives on the part of the program personnel and the learners? Were the programmers committed to seeing that these particular objectives were achieved? Were the learners committed to achieving them?

Just because objectives are written in terms of what participants are supposed to achieve does not necessarily mean that they are meaningful to those participants and that the participants are committed to those particular things.

In some situations the objectives actually are statements made by those in the program. However, in most instances they were developed by one or more of the following: representatives of the expected learners, some of whom actually participated and others who did not; individuals the programmer thought knew the expected clientele very well (for example, welfare workers recommending objectives for educational programs for welfare recipients); representatives of the larger society or a particular pressure group who wished to bring about certain changes by expected participants (for example, produce buyers who wanted farmers to change their products); subject matter experts who expressed themselves in terms of what they felt others should know about their subject; a "think group" within an agency whose statement was based on the expected mission of the agency; or the teacher or program coordinator with past experience and contacts with one or more of the other sources.

There may be several different and conflicting sets of learner objectives functioning in a given situation. Some will be stated--others will not. The evaluation design has to determine whether any objectives other than the "official ones" will be probed for and evaluated.

Meaning of the Objectives to Those Involved

Words mean different things to different pe[ople. A key element in designing strategy for measuring and e[valuating attainment of objectives is that of determining wha[t people think the objectives mean. Do the programmers and parti[cipants hold the same meaning? For example, an objective of he[lping families solve problems related to income management could [be interpreted by the programmer as "providing some help on some [problems," while the participant might interpret it as "solv[ing all of my problems." If someone outside of those two group[s is involved in the evaluation, he has to be sure that the mea[ning he assigns is the meaning held by those in the program.

Guide or Contract

Are the objectives viewed by the programmer[and the participants as "contracts" in the sense that there [is a clear expectation on both parts that they will be attai[ned pretty much as stated? Or are they interpreted as guide[s offering satisfaction to programmer and participants if so[me progress is made toward reaching otherwise "final" objectives[? In the first instance, programs would be judged according to t[he extent to which the behaviors spelled out in the contract w[ere in fact achieved. Less than complete achievement would b[e faulted. In the latter case, complete attainment would be wel[comed but not required. Substantial progress toward attainment [of the objectives would be accepted as success.

There is a current emphasis in elementary e[ducation on performance contracting, with objectives being he[ld as standards for full attainment. There may be many instances[in adult education where it is appropriate for the idea to ca[rry over and be applied. However, fairly complete knowledge i[s required of what is realistic to expect learners to achieve f[rom a certain amount of program input before one can set contra[ctual-type objectives which have much hope of being attained[. Elementary education has years of experience to draw upon. [It also is dealing with a more homogeneous group of participants[. In many instances, where such homogeneity and past experien[ce is lacking, objectives may better be seen as guides, with suc[cess based on progress toward rather than full attainment.

In addition to how the program personnel in[terpret the objectives, the evaluation may need to make a juc[dgment in terms of whether there is sufficient knowledge about po[ssible results in similar situations so that the objectives coul[d and should be effectively used in the contract sense.

Extent of Program Change Planned and Permitted

Also important to the whole design of evalu[ation is to understand the extent to which the program is fu[nctioning in a pattern through which the basic decisions are mac[de prior to and

outside of the learning interaction, i.e., are the objectives pre-set in advance of actual program implementation? This is the usual concept of programming and the basis for conventional discussions of evaluation. However, if programming is seen as interactive and dynamic, with objectives emerging as the programming proceeds, then rather than starting with a pre-plan with set objectives, one has to log the decisions about objectives that are made as the program progresses. In such a situation, objectives may be short-range--emerge, be satisfied, and others emerge during the course of the interaction. Or objectives may be constantly interchanged--set, moved toward, and then replaced by others before they are completely attained. The kind of evaluation of attainment of objectives that teams with teacher-student interaction may need to take a much more dynamic form than that which is coupled to a concept of programming as being the carrying out of a pre-set plan.

In cases where the pre-set plan is important, how much deviation from the plan is permitted? Can objectives be changed? Did objectives change during the program and were those changes recognized? Or is the judgment to be made only that of whether the original objectives were attained?

Real or Rhetoric

Sometimes the set of objectives put on paper are developed as official statements designed to be pleasing to a funding source or outside public. They are not meant to spell out the actual specific goals toward which the program is working. A bit of probing may reveal that the printed statements are window dressing rather than the real expected outcomes. The question then becomes whether to proceed with the printed objectives as a basis of the evaluation in order to show their fraudulent nature, or to probe for the real objectives and evaluate the program in those terms. Usually the two sets are on the same track but involve different specifics.

Program Focus or File Copy Only

Did the objectives function only on paper or was there an effort to attain them? Did they provide a focus for all other decisions and was the program design specifically targeted to the objectives? Or were the objectives written, filed, and forgotten? A programmer can believe that objectives should function as the central organizing focus in programming, but for a variety of reasons in actual practice, fail to operationalize that concept.

If there is considerable evidence that the stated objectives of the program had little meaning in the real life situation, is it worth while to try to evaluate their attainment? Might more be accomplished by retrospectively developing a list of realistic outcomes that probably were being attained by the program as it was being carried out?

PROBLEMS IN EVALUATING THE ATTAINMENT OF OBJECTIVES

Certainly there are a variety of problems inherent both in measuring the phenomena involved in the objective and in making judgments as to the sufficiency of the attainment of the objective. However, a more basic and overriding problem still hasn't been solved--that of getting good objectives written and used effectively in programming. Until it is solved, there is little room for dealing with the problems specific to evaluation by objectives.

Although evaluating the attainment of objectives has been the concept endorsed by the Adult Education Association of America since 1952, there are few examples where the complete cycle has been effectively carried out. Evaluators who approach a project expecting to evaluate the attainment of objectives often report: (1) there were no statements of objectives or the objectives were so vague they could be interpreted in many ways; (2) there was no agreement on and support of the official statement of objectives; or (3) the objectives changed during the course of programming.

If clear objectives have been set and they have been used to guide programming operations, evaluating the attainment of those objectives is relatively simple. The major problem, however, rests with getting the objectives set and used. It is assumed that adult educators are both able and willing to set objectives. Experience and analysis are showing, however, that this may be a much more difficult activity than appears on the surface.

Part of the problem may clear up as we make more progress in understanding the phenomenon of objectives and being able to deal with properties such as those described in the second section. This section presents some additional ideas about why it is difficult to set and use objectives sufficiently to make evaluation of their attainment worthwhile. The ideas are organized around two central themes:

- Failure to deal with objective setting as decision-making.
- Failure to adjust concepts to overcome fallacies in assumptions.

Failure to Deal With Objective Setting as Decision-Making

Objectives present the key decisions about the program. Setting of objectives is the basic decision-making process for the whole programming operation. The writing of the objectives comes easily after (or if) key decisions are resolved. It is the resolving of those decisions that is difficult.

The Process of Setting Objectives

Some approach objective-setting as though it is a writing rather than a decision-making activity and as a result may make little progress. Objective-setting needs to be seen as:

1. A process of making choices among the various alternatives involved in a given program.
   --which clientele?
   --what content?
   --how much?
   --what results?

2. A process of comparing the value of various alternatives in making the final choice.

3. A process that requires criteria or a basis for choosing among alternatives.

4. A process that requires highly developed ability to analyze, assign value, and make a choice. These are mental abilities and involve little or no physical action.

5. A process which requires sufficient knowledge, wisdom, and experience to understand context and possible consequences of choices.

6. A process of prediction and commitment.

Objective-setting is much more than sitting down at a desk and writing out some objectives. The educator must be able to analyze in such a way that (1) abstractions and global dreams are reduced to their basic parts, the relationships of those parts are clear, and crucial elements are determined; (2) alternatives are clearly identified; (3) the factors influencing the feasibility of the various alternatives are examined. Or, working from a small piece or idea, he must be able to analyze the larger whole from which that part comes so that he sees the part in its perspective. He must be able to deal with the nitty-gritty of a real life situation and clear away the irrelevant while concentrating on the essential.

When the educator has a feel for the pieces involved, he must be able to assign value to those pieces. Will it be better to emphasize A or should be concentrate on B? He has to select items of the greatest value to the people who will participate. He needs the ability to reconcile conflicting values. Some prospective participants want a program which focuses on A, others want to explore B in depth. From the wealth of material that could be taught, he has to select what will be taught. Why are his selections better than his rejections?

In other words, he is required to make decisions from among a wide array of choices and he needs some feeling that those decisions are right or at least are defensible. Usually

there are many ways in which a program could go. The decision is, which way should it go?

He has to wrestle with these decisions sufficiently so that he can communicate them to other people. When he does, he is apt to get other suggestions and some challenge. Why does he feel the program should go in this particular way? There probably isn't an absolute answer he can identify.

Establishing Value

It is impossible to set an objective if one is not willing to commit oneself to something as more worthy than something else. Yet many educators have had no formal training in valuing and comparing value. As one sets objectives, the question involved in making decisions is not whether a particular objective has merit but whether or not it is more valuable than some other objective.

It is usually much easier for adult educators to choose among methods and techniques and to plan how they will carry out a program than it is for them to make the basic decisions (inherent in objectives) about why they are doing the program and what they expect to accomplish with the methods. Most of us know more about methods and techniques, and have broader factual and experiential bases for choosing among them than we do about setting objectives. The adult educator finds a wider range of literature to guide his choice of method than to guide his choice of objectives.

For some years, about all the adult education literature emphasized in terms of guides for choosing among alternatives were the Tylerian concepts of sources of objectives (learners, society, and the discipline) and screening objectives through philosophy and psychology of learning. The latter part of the concept was often underdeveloped.

Now additional ways of examining choices in objectives are being suggested. Criteria include acceptance--the degree of intellectual and emotional commitment that participants are apt to have in achieving the objectives; achievability--is it feasible to try to reach the objective; appropriateness--is it desirable to do so even though it may be feasible; worth--priority of importance as contrasted with other possible objectives. More recognition is being given to the idea that some objectives may not be attainable within the limitations of the educational setting. It is important to analyze barriers as well as needs when setting objectives. The fact that some achievable objectives may not be worth realizing also is being considered. There must be constant interplay and balance of two questions--what is it important to accomplish, and what is it most possible to accomplish?

Although it is hard to judge objectives against such screens, the attempt may be useful in helping to isolate the

kind of decisions that need to be made and exploring alternatives related to them. And such screening of ideas for objectives may make the resulting objectives more worthy of being evaluated for their attainment.

Analysis, valuing, and decision-making all require extensive mental activity. For most of us this is extremely hard and slow work, with second and third thoughts involved. And yet we think we should be able to sit down and dash off useable objectives in an hour or two.

Need for Building a Base for Choice

Academic courses and in-service workshops often miss helping people set and use good objectives. We've passed the era when sessions on objectives concentrated primarily on insisting that teachers state objectives in terms of learner results rather than in terms of what the teacher intends to do. We have passed the era when time was wasted in circular arguments over the differences between goals and objectives. We have passed the stage when the emphasis was on the form of the verb and the concept that every objective had to have an infinite verb form (students to demonstrate). We are now at the stage of understanding the general categories of content and behavior that are usually included in objectives. This stage is certainly more helpful and productive than the past ones. However, too often the emphasis is on helping adult educators with the mechanics of phrasing objectives rather than helping them screen their decision-making and evaluate the quality of the objectives that are stated. Too little experience is given in judging the value of alternative objectives and in helping the teacher get a feel for what is realistic, what can be attained by whom in what situations, and with what educational inputs. There is still a very long way to go in terms of developing learning experiences to help adult educators become such good predictors and selectors that they will feel secure in attempting to use objectives as the major means of evaluating their work.

Bases for Sound Predictions

As we realize that objectives announce the fundamental decisions about a program we may become uneasy, since we commit ourselves to the attainment of predictions. To make accurate predictions (make decisions about programs which result in clear and attainable objectives) the adult educator has to have a high degree of knowledge about (1) the program content; (2) the general characteristics of the learners' needs, interests, learning orientations, learning abilities, past experiences, and life situations; (3) educational processes and the effects of various types of learning inputs with his particular type of learners; and (4) specific knowledge about how the program content fits into the life situation of the learners and their orientation and ability in the type of learning involved.

In order to specify standards of attainment for those objectives, the adult educator needs a sound understanding of what it is possible to attain with a given input in a particular situation. Adult educators often differ from youth educators because they are dealing with a much more heterogeneous clientele in terms of ability, past experiences, needs, and interest, and are dealing with situations where the life space of the individual is very apt to affect his learning. Therefore, some adult educators are put into the situation of needing to know more about the individual student than the elementary school teacher does but having less contact with the student and fewer records about him to draw upon.

Predictions take on still another dimension in new programs. Some adult education programs are so innovative that not only do they lack an experience track record on which to base predictions, but in some instances the programs are having to develop the knowledge as they proceed. There is no text or other accumulated body of knowledge in the field. This is the case in many of the adult education programs which focus on real-life problems. Should the adult educator avoid such types of programs? Should he limit himself only to those where he can make secure predictions and know that he can prove that those predictions were reached (i.e., objectives are measurable)? Or should he be free to push the frontiers even though he may need to program for several months before he can gain sufficient knowledge to set any kind of predictable targets and levels for his objectives?

When the knowledge base is sufficient, the adult educator is more apt to be willing to accept and to enjoy the challenge of making the predictions of accomplishments required in objectives and to accept the commitment to achieve those accomplishments.

Failure to Adjust the Concept to Overcome Fallacies in Underlying Assumptions

A second major reason why programmers may fail to set and use objectives effectively is that they are wise enough to realize that the narrow concept of objectives and their use as transferred directly from youth education may not fit their adult education situation.

Any theory or process is based upon a set of assumptions. If those assumptions are faulty or do not apply to a given situation, then the process itself is in difficulty. It may be that several of the assumptions underlying the ability to set and evaluate the attainment of objectives do not apply in all adult education situations.

Here are some of the assumptions that may at times come into question:

1. Enough is known by the field as a whole so that in all situations the appropriate result from

a given amount of input can be predicted (i.e., it is always possible to set clear outcome objectives).

The basic assumption is that adult education always can set accurate objectives. In some fields there is sufficient past experience and research to be able to set a realistic target matched with a given amount of input. However, adult education is forever getting involved in pilot efforts and in new things and this assumption may not always hold true.

2. The individual adult educator knows enough about the process of education and how his clientele respond and learn various types of things so that he can set realistic objectives.

The teacher who has taught grade 4 spelling for five years probably has a basis for making such a judgment. The beginning elementary teacher accepts the cumulative experiences of her thousands of colleagues who have been teaching Johnny to spell for one-hundred years. In such a situation, it is very probable that realistic objectives can be set. In some areas of adult education there may also be a wealth of experience sufficient to make possible setting realistic objectives which reconcile the amount of input with the wide range in the students. But in other areas the adult educator is constantly experimenting, seldom working from a prepackaged curriculum guide, and seldom doing exactly the same things more than two or three times in his professional career. Not only does he have fewer colleagues engaged in the exact same thing but his communication with those colleagues may be much more restricted. He may not have a counterpart within fifty miles, while the elementary school teacher may have as many as twenty or two-hundred counterparts within the same city.

In terms of knowledge or educational processes, adult educators have usually had little academic preparation for programming with adults. Few have majored in adult education. Most either have majored in some other form of education or in a specific program content field and then have gravitated to working with adults.

3. It is possible to predict and control adult learning in complex situations.

Much of the type of learning involved in adult education is intricate and is related to the real world. The personalities and life spaces of the adult participants are more complex than those of children. Transfer of the concept of attainment of objectives to adult education assumes that it is equally possible to predict the achievable end accurately and to control events leading to that end in complex as in simple situations.

4. It is important that decisions about results be made before teaching begins.

Many are teachers because they like the active interaction with learners. They are primarily actionists rather than planners. They are impatient to get on with the action. Decisions are often made in the context of the learning situation and often on the spot as the interaction progresses. This leaves them free to capitalize on teachable moments. Longer-range goals and intents are present but are part of their subconscious and act instantaneously to guide the choice of emphasis or activity or role of the teacher in the interactive situation.

Most formalized concepts of objectives consider them as "pre-active" entities--decisions made before the action starts. There is an assumption that teachers cannot build integration, sequence, and concentration on major ends by utilizing only interactive decisions. Most concepts of objectives give insufficient attention to the dynamic situation where objectives are set and changed within the interaction setting and, as a result, objectives often become something put on paper in the beginning but disregarded from that time on. They are not updated as the teachers' own decisions change through interaction with learners.

Not only does the extreme actionist need to slow down sufficiently to be able to verbalize and communicate his subconscious goals and intents, but also the theorist working with a concept of objectives has to bridge the gap between the sometimes sterile-looking statements required in plans and the dynamic operational concepts involved in working objectives.

5. The teacher has sufficient control to produce the desired results.

Another built-in assumption is that it is always humanly possible for the teacher to produce the expected results. The adult educator does not always have the same rewards and sanctions (grades and disciplinary procedures) to use as a strong impetus for adults to achieve objectives. Most adult education programs cannot require the same tractability as the grade school does, and as a result there is a high level of unpredictability in adult education activities. There is a belief--held by the student if not by the teacher--in the autonomy of the adult and the adult's right to choose what he will and won't learn and what he will and won't do with that learning. There are pressures in the grade school which enforce the "all will" concept underlying attainment of objectives. And a responsibility for socialization and preparation which makes those pressures appropriate. In most instances it is inappropriate to apply these same pressures to adults. Pressure exerted through licensing and certification is justified, however, when the well-being and satisfaction of others who will depend upon the adult students services are involved. But in other instances the assumption that adult students always "will" learn may be erroneous.

6. Everyone should learn the same thing.

Most of the views of adult education on evaluating the attainment of objectives have been borrowed from childhood education, where the teacher has a responsibility for socialization and for making sure that all (or as many as possible) of her students master certain fundamental skills. This concept of evaluation of instruction has been highly influenced by an essentialistic philosophy of education. There is a basic assumption that all participants should master the same objectives. In some adult education activities, particularly those where one has to certify students, this essentialistic view may be appropriate. However, if one believes in all that we say about recognizing the variation in life space and experience of the adult and in autonomy of the learner--if one pays any attention to what research has shown about the range of reasons why people take part in adult education activities--we will question whether it is always appropriate to judge a program by the extent to which it has helped all participants master the same thing. The life situations and needs of adults vary so greatly that sometimes a practice that may be excellent for the majority actually may be harmful for a few and of no value for a minority. For example, using behavioral objectives may be excellent for adult educators teaching shop courses or math 101, may be harmful to those teaching philosophy, and may have no more value than other approaches to those teaching current events.

The adult educator has to become astute in deciding what proportion of his students can, will, and should master a particular objective as he determines what amount of mastery is necessary before his work is successful. Interestingly enough, there's some indication that childhood education may soon outdistance adult education in belief in and real operationalization of individualized instruction. There's a growing advocacy in general education for examining the extent to which individual children have attained objectives designed specifically for their situation and needs as opposed to or in addition to the extent to which members of a class have met a mass objective set for that class.

7. Attainment of Objectives Constitutes a Successful Adult Program.

In adult education, success lies as much or more in the satisfaction of the participant as it does in accomplishing tasks for society. In adult education more than in youth education, the test of the program lies in the extent to which the participant is satisfied with his experience. Although generally satisfaction is related to accomplishment as indicated in objectives, this is not always the case. Objectives can be attained and participants go away unsatisfied. On the other hand, objectives may not be attained and participants may go away very satisfied if they have found other things of value to them within the experience. The extent to which the adult participant

is satisfied with the results is at least as important, if not more so, than the actual results produced.

8. Attainment of Objectives Automatically Produces Value?

There is often an underlying assumption that attaining objectives is good and automatically produces something of value. Worth comes from results of objectives only if the objectives are themselves valuable. Unless saved by serendipity, attaining mediocre objectives results in a mediocre project. A good rating on value at the end of the project is dependent upon careful evaluation of the objectives as they are being set to see that they are indeed apt to produce outcomes of use to the participants and/or to society. The most important evaluation of the program is its total worth and value. The attainment of objectives can be an enabler but isn't automatically so.

PROSPECTS FOR THE EVALUATION OF ATTAINMENT OF OBJECTIVES

Although adult education holds evaluation of the attainment of objectives as an important part of evaluation, it should not be seen as constituting the whole of evaluation. It can be an extremely valuable tool for facilitating learning and improving programming when it can be utilized without violating the basic assumptions upon which it is built and without jeopardizing the basic premises of a philosophy of adult education.

Setting objectives is not easy. The process involves substantial analysis, valuing, and decision-making. It requires broad knowledge and experience. Evaluating the attainment of those objectives depends a good deal upon the logic and objectivity of the programmer and evaluator, although good quality data can help to improve the quality of the judgment. Despite difficulties, it is important to do as much evaluation as is appropriate in order to gain greater insight into the effect of various program inputs.

The last ten years have shown a great advance in the knowledge base for setting and evaluating the attainment of objectives, but there is still a long way to go. Even considering the problems discussed in the last section, we conclude that the prospects for evaluating the attainment of objectives as a more useful tool in programming are very bright.

They are bright IF ADULT EDUCATORS ARE ABLE TO BUILD A CONCEPT OF OBJECTIVES AND THEIR USE WHICH IS ADJUSTABLE IN ADULT EDUCATION SITUATIONS. The prevailing concepts fit certain adult education situations very well. It is a poor fit in others. Some of the kinds of adjustments that may be in order are:

1. Adaptations to compatability with the philosophy of education being operationalized. For example, if one is operating in terms of individual differences and adult autonomy and responsibility, the concept used of objectives and their evaluation should fit that philosophy.

2. Adaptations to dynamic programming situations. For example, rather than to require preset objectives, objectives may be documented as they emerge and are dealt with in the course of the teaching-learning interaction.

3. Suiting the guide vs. contract dimension to the degree of assurance with which results can be predicted. For example, if there's little past experience on which to base objectives, they may be treated as hypotheses to be tested and progressed toward rather than contracts of absolute performance.

4. Increasing the kinds of guides available to adult educators as they make the decisions that result in objectives. For example, better outlining the kinds of decisions and the process of decision-making that needs to occur.

5. Better relating objectives to participant satisfaction so that the two elements are more consistent. For example, examining the extent to which participants are satisfied with the objectives and the results as well as determining what the results were.

6. Suiting the purity of method and the extensiveness of the data treatment to the consequences of inaccuracy.

7. And through such adaptations, making objectives meaningful tools to adult educators in their own situations.

Prospects are bright IF ADULT EDUCATORS ARE ABLE TO FURTHER DEVELOP THE BASIS FOR INTERPRETING DATA AND ASSIGNING VALUE AND FORMING JUDGMENTS. To date, few evaluations have dealt with the question of when objectives have been attained. Few guides are given for developing accurate judgments. Most have been happy to prove that results related to an objective occurred. There needs to be considerably more exploration and discussion in terms of how one decides when an objective has been attained. There needs to be more sharing of results so that "track records" are input for comparison. Most important, concepts of determining the value of that attainment have had little development. Adult educators need to become much more involved in exploring, debating, and proving worth in programs. This may involve a good deal more than previously thought.

Prospects are bright if adult educators CAN RELATE PROCESS TO PURPOSE AND CAN DISCERN WHEN THE VALUE FROM EVALUATING ATTAINMENT OF OBJECTIVES WILL BE GREAT ENOUGH TO COMPENSATE FOR THE EFFORT EXPENDED. What are the "must situations" when some degree of attention must be given to the attainment of objectives? What are the "helpful situations"? When is the process a waste of time? Part of the answer to these questions is determined by the extent to which the evaluation actually will be able to affect important decisions on the part of the learner, adult educator, and those who support the program. Part of the answer depends too on the utility of the evaluation and whether the evaluation was conducted in such a way as to enhance use.

Evaluation has worth only if it is used. All types of evaluation, attainment of objectives included, should be used for a purpose rather than because it is something that is good to do.

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